IEC
Indoor Environmental Concepts, LLC

October 20, 2022

Mr. Colandus Francis
Operations Manager
Freire Schools
1617 JFK Blvd., Suite 1260
Philadelphia, PA 19103

RE: Lead (Pb) in Water Testing
Freire Wilmington School
201 W. 14th Street
Wilmington, DE 19801
IEC Project # 2022.227

Dear Mr. Francis:

Indoor Environmental Concepts, LLC (IEC) was retained by the Freire Charter Schools to perform a follow up assessment and testing of the consumption drinking water outlets servicing the Freire Wilmington School for the presence of lead (Pb). The lead in water testing was performed pursuant to the regulations and guidance documents from the Federal Safe Drinking Water Act (40 CFR 141, 142 & 143) and the United States Environmental Protection Agency (EPA) protocols as recommended in their publication 3Ts for Reducing Lead in Drinking Water in Schools, Revised Technical Guidance. The EPA developed the 3Ts for Reducing Lead in Drinking Water in Schools, Revised Technical Guidance, which has been incorporated into this sampling protocol because the Agency is concerned about the potential for elevated lead levels in drinking water in schools.

Safe Drinking Water Compliance

The EPA recommends that schools collect 250 mL first-draw samples from water fountains, water bottle filler stations and potable water outlets for the analysis for lead (Pb). The EPA also recommends that these potable water outlets do not exceed 15 parts per billion (ppb) or 0.015 milligrams of lead per liter of water (mg/L). However, in order to be consistent with the three previous water testing surveys at Freire Charter schools located in Philadelphia and to guarantee that students have access to safe drinking water at all Freire schools, IEC is following the action level used by the School District of Philadelphia of **10 parts per billion** (ppb) of lead. The action level of 10 ppb of lead or less was used in the interpretation of results for the samples collected and analyzed at the Freire Charter schools located in the City of Philadelphia.

If water exceeds this action level, IEC recommends that these drinking water outlets be shut-off immediately and an action plan developed. Physical signs should be affixed to these outlets that they should not be used for drinking water.

Lead Sampling Collection and Results

A trained technician collected samples from water outlets and the samples were sent to a laboratory certified by the Delaware Division of Public Health, Office of Drinking Water for analysis. The samples were collected after an 8-to-18-hour stagnation period. All samples were taken before the facility opened and before any water was used by building occupants. Consumption outlets were targeted for this sampling event. Cold water lines were sampled when possible. All water samples were collected in laboratory supplied, pre-cleaned 250 milliliter (mL) bottles preserved with Nitric Acid (HNO_3). The bottles were labeled with a unique sample identification number and the sample location and time sampled were recorded on the chain of custody form. All samples were sealed immediately after collection and delivered to a DE certified laboratory, in laboratory provided coolers, for the analysis of lead content via ICP/MS by EPA Method 200.8. A copy of the laboratory analytical reports, certifications and chain of custodies can be found as attachments to this report.

First-draw sampling was performed by IEC at fifteen (15) drinking water outlets on October 7, 2022. All outlets tested produced water that was below the action level of 10 ppb.

Please note the following consumption outlet was found to be not working and therefore no water sample was collected:

- 4th Floor Hallway Water Fountain Bubbler (next to elevator)

If this water outlet is returned into service, IEC recommends that it be sampled prior to use.

In general, an ongoing flushing program should be implemented as a routine practice to improve the overall water quality at this facility. Flushing involves opening taps and letting the water run to remove water that has been standing in the interior pipes and/or the outlets. The flushing time can vary by the type of outlet being cleared. The degree to which flushing helps reduce lead levels can also vary depending upon the age and condition of the plumbing and the corrosiveness of the water. Flushing individual outlets immediately prior to use is recommended in conjunction with signage and flushing schedules. In addition, EPA recommends locating the faucet furthest away from the service line on each wing and floor of the building, open the faucets wide, and let the water run for 10 minutes.

Results Table Initial Sampling Event, 10/07/2022

Sample Date	Sample No.	Floor	Outlet	Sample	Outlet Description	Lead Result	RL	Action
10/7/2022	1007-1	1st	FP	1	Kitchen 115B Left Sink	ND	1.00	BA
10/7/2022	1007-2	1st	FP	1	Kitchen 115B Far Right Sink	ND	1.00	BA
10/7/2022	1007-3	1st	FP	1	Cafeteria Sink Outside 115B	ND	1.00	BA
10/7/2022	1007-4	1st	WF	1	Cafeteria Bubbler	ND	1.00	BA
10/7/2022	1007-5	1st	HS	1	Cafeteria Water Bottle Filler	ND	1.00	BA
10/7/2022	1007-6	1st	WF	1	1st Floor Hallway Bubbler	ND	1.00	BA
10/7/2022	1007-7	2nd	HS	1	2nd Floor Hallway Water Bottle Filler	ND	1.00	BA
10/7/2022	1007-8	2nd	WF	1	2nd Floor Hallway Water Fountain Bubbler (across 206)	ND	1.00	BA
10/7/2022	1007-9	2nd	HS	1	2nd Floor Hallway Water Bottle Filler (across 206)	ND	1.00	BA
10/7/2022	1007-10	3rd	WF	1	3rd Floor Hallway Water Fountain Bubbler by elevator	ND	1.00	BA
10/7/2022	1007-11	3rd	WF	1	3rd Floor Hallway Water Fountain Bubbler (across 306)	ND	1.00	BA
10/7/2022	1007-12	3rd	HS	1	3rd Floor Hallway Water Bottle Filler (across 306)	3.37	1.00	BA
10/7/2022	1007-13	4th	WF	1	4th Floor Hallway Water Fountain Bubbler by elevator	N/A	N/A	N/A
10/7/2022	1007-14	4th	HS	1	4th Floor Hallway Water Bottle Filler by elevator	ND	1.00	BA
10/7/2022	1007-15	4th	WF	1	4th Floor Hallway Water Fountain Bubbler (across 406)	ND	1.00	BA
10/7/2022	1007-16	4th	HS	1	4th Floor Hallway Water Bottle Filler (across 406)	1.85	1.00	BA

Notes:

AA = Above Action Limit of 10 ppb

BA = Below Action Limit of 10 ppb

RL = Method Reporting Limit

MDL = Method Detection Limit

< = not detected above the RL

ppb = parts per billion

D = Sample required a dilution to calculate final results

ND = Indicates analyte was not detected at the RL

J = Results was below the reporting limit, but above the MDL

Sample Type; 1 = 1st Draw and F = 30 second flush

Outlet Types:

WF = Water Fountain/Bubbler

HS = Hydration Station/Bottle Filling Station

FT = Faucet/Tap

FP = Food Prep/Kitchen

IM = Ice Maker

Background

Federal studies indicate that children under the age of six are at the highest risk for harmful lead exposure, and children can be exposed to lead from a variety of sources, including drinking water, paint, soil and even some consumer products. Lead is a toxic metal that can be harmful to human health when ingested or inhaled. Even small doses of lead can be harmful. Unlike most other contaminants, lead is stored in our bones and can be later released into the bloodstream. The groups most vulnerable to lead include fetuses and young children. Drinking water and ingested dust are two likely routes of entry for lead exposure.

Even though water delivered from your community's public water supply must meet Federal and State standards for lead, a facility may have elevated concentrations of lead due to plumbing and water use patterns in the building. The physical/chemical interaction that occurs between the water and plumbing is referred to as corrosion. The extent of which corrosion occurs depends on various factors such as the lead content of the building's plumbing and piping system, water velocity, temperature, alkalinity, chlorine levels, the age and condition of plumbing, and the amount of time water is in contact with the plumbing.

Given the health effects of lead, EPA advocates that any school conducting sampling for lead make public any test results. In addition, such schools should identify activities they are pursuing to correct any lead problems.

Advice, suggestions, and samples to assist in the public notification process is available from the EPA in their 3Ts for Reducing Lead in Drinking Water in Schools. This publication is available online on the EPA's website.

It should be noted that this sampling was performed in accordance with current guidelines. Should the guidelines change, or legislation dictate other criteria, these results may need to be reevaluated. If you need any further assistance, please do not hesitate to contact our office.

Sincerely,
Indoor Environmental Concepts, LLC

Nonresponsive based on revised scope

Vice President

cc: Michael P. Menz, CIH, CHMM

Attachments

OrderID: 012213565

012213565

IEC
Indoor Environmental Concepts, LLC

DE Samples

Project Name: Freire Schools – 201 W. 14th St. File #: 2022.227

Laboratory: ~~HATF~~ EMSL Analysis: Lead in Water (EPA 200.8/ICP-MS

Turnaround Time: ~~X 2 weeks~~ 1 WEEK

Collected by:

Transmitted by:

Received by:

Nonresponsive based on revised scope

Date: 10/7/22

Date: 10/7/22 10:30 AM

Date: 10/7/22 10:30 AM

	Sample #	Location	Fixture Type	Time sampled
1	1007-1	Kitchen 115B left sink		7:18AM
2	1007-2	Kitchen 115B far right sink		7:19
3	1007-3	Cafe... sink o/s 115B HAND WASHING		7:17 AM
4	1007-4	Cafe... bubbler		7:20
5	1007-5	Cafe... water bottle filler		7:19
6	1007-6	first floor hallway bubbler		7:22
7	1007-7	hallway 2nd floor water fountain bottle filler		7:23
8	1007-8	2nd floor water fountain bubbler (across 206)		7:24
9	1007-9	2nd floor water fountain bottle filler (across 206)		7:24
10	1007-10	3rd floor water fountain bubbler (next to elevator)		7:27
11	1007-11	3rd floor hallway water fountain bubbler (across 306)		7:28
12	1007-12	3rd floor hallway water fountain bottle filler (across 306)		7:29
13	1007-13	4th floor hallway water fountain bubbler (next to elevator)	NOT WORKING	7:31 (7:31)
14	1007-14	4th floor hallway water fountain water bottle filler (next elevator)		
15	1007-15	4th floor water fountain bubbler (across 406)		7:32
16	1007-16	4th floor water fountain bottle filler (across 406)		7:32

15 pc

HAWs added 10/7/22 11:49 PL

117 N. Black Horse Pike ● Runnemede, NJ 08078 ● (856) 463-0777 ● www.indoorenvconcepts.com

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: Nonresponsive based on revised scope

10/18/2022

Indoor Environmental Concepts, LLC
117 N Black Horse Pike
Runnemede, NJ 08078

Phone: Nonresponsive based on revised scope
Fax:

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/7/2022. The results are tabulated on the attached data pages for the following client designated project:

Project ID: Freire Charter Schools
Freire Schools - 201 W. 14th St

The reference number for these samples is EMSL Order #012213565. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Nonresponsive based on revised scope

Nonresponsive based on revised scope Chemistry Laboratory Director

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012213565
CustomerID:	INDA25
CustomerPO:	
ProjectID:	Freire Charter Sch

Attn: Nonresponsive based on revised scope
Phone: Nonresponsive based on revised scope
Fax:
Received: 10/7/2022 10:30 AM

Indoor Environmental Concepts, LLC
117 N Black Horse Pike
Runnemede, NJ 08078

Project: **Freire Schools - 201 W. 14th St**

Analytical Results

Client Sample Description 1007-1
Kitchen 115B Left Sink
Collected: 10/7/2022 7:18:00 AM
Lab ID: *012213565-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:12 KG

Client Sample Description 1007-2
Kitchen 115B Far Right Sink
Collected: 10/7/2022 7:19:00 AM
Lab ID: *012213565-0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:16 KG

Client Sample Description 1007-3
Café..sink 015 115B Hand washing
Collected: 10/7/2022 7:17:00 AM
Lab ID: *012213565-0003*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:17 KG

Client Sample Description 1007-4
Café..bubbler
Collected: 10/7/2022 7:20:00 AM
Lab ID: *012213565-0004*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:19 KG

Client Sample Description 1007-5
Café..water bottle filler
Collected: 10/7/2022 7:19:00 AM
Lab ID: *012213565-0005*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:20 KG

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012213565
CustomerID:	INDA25
CustomerPO:	
ProjectID:	Freire Charter Sch

Attn: Nonresponsive based on revised scope

Indoor Environmental Concepts, LLC
117 N Black Horse Pike
Runnemede, NJ 08078

Phone: Nonresponsive based on revised scope
Fax:
Received: 10/7/2022 10:30 AM

Project: **Freire Schools - 201 W. 14th St**

Analytical Results

Client Sample Description 1007-6
first floor hallway bubbler
Collected: 10/7/2022 7:22:00 AM
Lab ID: *012213565-0006*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:25 KG

Client Sample Description 1007-7
hallway 2nd floor water fountain bottle filler
Collected: 10/7/2022 7:23:00 AM
Lab ID: *012213565-0007*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:26 KG

Client Sample Description 1007-8
2nd floor water fountain bubbler (across 206)
Collected: 10/7/2022 7:24:00 AM
Lab ID: *012213565-0008*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:28 KG

Client Sample Description 1007-9
2nd floor water fountain bottle filler (across 206)
Collected: 10/7/2022 7:24:00 AM
Lab ID: *012213565-0009*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:29 KG

Client Sample Description 1007-10
3rd floor water fountain bubbler (next to elevator)
Collected: 10/7/2022 7:27:00 AM
Lab ID: *012213565-0010*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:30 KG

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012213565
CustomerID:	INDA25
CustomerPO:	
ProjectID:	Freire Charter Sch

Attn: Nonresponsive based on revised scope

Indoor Environmental Concepts, LLC
117 N Black Horse Pike
Runnemede, NJ 08078

Phone: Nonresponsive based on revised scope
Fax:
Received: 10/7/2022 10:30 AM

Project: **Freire Schools - 201 W. 14th St**

Analytical Results

Client Sample Description 1007-11
3rd floor water fountain bubbler (across 306)
Collected: 10/7/2022 7:28:00 AM
Lab ID: *012213565-0011*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:32 KG

Client Sample Description 1007-12
3rd floor hallway water fountain bottle filler (across 306)
Collected: 10/7/2022 7:29:00 AM
Lab ID: *012213565-0012*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	3.37	1.00	µg/L	10/13/2022 KG	10/13/2022 14:36 KG

Client Sample Description 1007-14
4th floor hallway water fountain bottle filler (next to elevator)
Collected: 10/7/2022 7:31:00 AM
Lab ID: *012213565-0013*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:38 KG

Client Sample Description 1007-15
4th floor water fountain bubbler (across 406)
Collected: 10/7/2022 7:32:00 AM
Lab ID: *012213565-0014*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	ND	1.00	µg/L	10/13/2022 KG	10/13/2022 14:42 KG

Client Sample Description 1007-16
4th floor water fountain bottle filler (across 406)
Collected: 10/7/2022 7:32:00 AM
Lab ID: *012213565-0015*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
200.8	Lead	1.85	1.00	µg/L	10/13/2022 KG	10/13/2022 14:44 KG

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012213565
CustomerID:	INDA25
CustomerPO:	
ProjectID:	Freire Charter Sch

Definitions:

MDL - method detection limit
J - Result was below the reporting limit, but at or above the MDL
ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)
D - Dilution Sample required a dilution which was used to calculate final results

DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
Office of Drinking Water

PHONE: (302) 741-8630
FAX: (302) 741-8631

June 27, 2022

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

Attn: Nonresponsive based on revised scope

Re: Delaware Approval

Dear Nonresponsive based on revised scope

The Delaware Office of Drinking Water (ODW) is required to establish the certification of out-of-state laboratories that perform analysis on drinking water compliance samples from the State of Delaware. Based on the submitted documents, EMSL Analytical, Inc., located at 200 Route 130 North, Cinnaminson, NJ, is approved to do compliance work in the State of Delaware for the drinking water analytes listed on the State of New Jersey certificate that expires on June 30, 2023. This approval is valid for the same time period as the State of New Jersey certification.

To renew this approval, ODW will require the following:

- A copy of the home state or NELAP certificate for drinking water analysis listing approved analytes and methods
- A copy of the last two annual proficiency tests listing analytes and methods
- A copy of the quality assurance manual
- Proof of a State of Delaware Public Water System client or drinking water laboratory client
- A letter (PDF via email is acceptable) within 30 days of any changes in:
  - Major personnel
  - Major equipment
  - Name, location, or owner

If any changes or updates are made to the above requirements, copies of the changes or updates should be submitted to ODW. If you have any questions, contact me at 302-741-8630 or sally.gordy@delaware.gov.

Sincerely,

Sally Gordy
Environmental Health Specialist
Office of Drinking Water